

RJP/SAS:dnr 10/24/05 443079.Joc MIC01/2850/US  
PATENT

Attorney Reference Number 4616-68296-01  
Application Number 10/813,908

### Claims

Claims 1 – 22 (Cancelled).

Claim 23 (Currently amended): An isolated polypeptide comprising at least one epitope or epitopic region of a polypeptide selected from the group consisting of selected one of the class Acr1; Acr2; Acr3; Acr4; AcrD; AcrR; AcrG; AcrV; and AcrH, wherein said polypeptide is present in *Aeromonas salmonicida*.

Claim 24 (Withdrawn): An isolated nucleic acid fragment encoding a protein having an amino acid sequence as given in a selected one of the class comprising SEQ ID NO:1; SEQ ID NO:2; SEQ ID NO:3; SEQ ID NO:4; SEQ ID NO: 5; SEQ ID NO:6; SEQ ID NO: 7; SEQ ID NO:8; and SEQ ID NO:9.

Claim 25 (Withdrawn): An isolated nucleic acid fragment comprising SEQ ID NO:10, or the complement thereof.

Claim 26 (Currently amended): An immunogenic, ~~immunological or vaccine~~ composition comprising a polypeptide as claimed in Claim 23.

Claim 27 (Withdrawn): An immunogenic, immunological or vaccine composition comprising a nucleic acid fragment of claim 24.

Claim 28 (Withdrawn): An immunogenic, immunological or vaccine composition comprising a nucleic acid fragment of claim 25.

Claim 29 (Withdrawn): A method for reducing the susceptibility of fish to infection by a virulent strain of *A. salmonicida* comprising the intraperitoneal, intramuscular, intradermal, intracellular, spray, immersion, or oral administration to said fish of a composition comprising an immunogenic amount of at least one epitope or epitopic region of AcrV, any other protein of the *A. salmonicida* Type III secretion apparatus, a natural or genetically modified variant thereof, or an antigenic peptide derived or synthesized thereof.

RJP/SAS:dmr 10/24/05 443079.dtc MIC01/2850/US  
PATENT

Attorney Reference Number 4616-68296-01  
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Claim 30 (Withdrawn) The method of claim 29, wherein the at least one epitope or epitopic region of a protein of the *A. salmonicida* Type III secretion apparatus, a natural or genetically modified variant thereof, or an antigenic peptide derived or synthesized thereof, is fused to at least one other polypeptide at the N'-terminal, C'-terminal, or both, and wherein the said at least one other polypeptide facilitates expression.

Claim 31 (Withdrawn): The method of claim 29, wherein the at least one epitope or epitopic region of a protein of the *A. salmonicida* Type III secretion apparatus, a natural or genetically modified variant thereof, or an antigenic peptide derived or synthesized thereof, is fused to at least one other polypeptide at the N'-terminal, C'-terminal, or both, and wherein the said at least one other polypeptide facilitates the formation of insoluble intracellular aggregates.

Claim 32 (Withdrawn): The method of claim 29, wherein the at least one epitope or epitopic region of a protein of the *A. salmonicida* Type III secretion apparatus, a natural or genetically modified variant thereof, or an antigenic peptide derived or synthesized thereof, is fused to at least one other polypeptide at the N'-terminal, C'-terminal, or both, and wherein the said at least one other polypeptide is a T cell epitope or a B cell epitope.

Claim 33 (Withdrawn): A method for reducing the susceptibility of fish to infection by a virulent strain of *A. salmonicida* comprising the intraperitoneal, intramuscular, intradermal, intracellular, spray, immersion, or oral administration to said fish of an immunogenic amount of a composition comprising the *acrV* gene, the gene of any other protein of the *A. salmonicida* Type III secretion apparatus, homologues, fragments, or synthetic oligonucleotides derived thereof.

Claim 34 (Withdrawn): A method for reducing the susceptibility of fish to infection by a virulent strain of *A. salmonicida* comprising the intraperitoneal, intramuscular, intradermal, intracellular, spray, immersion, or oral administration to said fish of an immunogenic amount of a composition comprising the isolated nucleic acid fragment of

RJP/SAS:dnt 10/24/05 443079.dct MIC01/2850/US  
PATENT

Attorney Reference Number 4616-68296-01  
Application Number 10/813,908

SEQ ID NO:10.

Claim 35 (Withdrawn): A therapeutic method for the protection of fish from the toxic effect of a virulent strain of *A. salmonicida* comprising the use of antiserum directed against AcrV, variants or fragments thereof, or synthesized peptides thereof.

Claim 36 (Withdrawn): The method of claim 35 wherein the antiserum is directed against recombinant AcrV.

Claim 37 (New): An isolated polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4, SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, and SEQ ID NO: 9.

Claim 38 (New) An immunogenic composition comprising the isolated polypeptide of Claim 37 and a pharmaceutically acceptable carrier.

Claim 39 (New): A vaccine composition comprising the polypeptide AcrV, wherein said polypeptide is present in *Aeromonas salmonicida*.